AMENDMENTS TO THE CLAIMS

1.   (Currently Amended) A method for providing a multicast of a packet, which is included in a transport stream, in a digital network, the method comprising:

receiving at an input port of a multimodulator the transport stream having a plurality of packets included therein;

determining from a table whether a given packet of the plurality of packets is a multicast packet or a unicast packet, wherein a multicast packet is designated for transmission from a plurality of modulators included in the multimodulator and a unicast packet is designated for transmission from only one modulator of the plurality of modulators;

associating a modulator identifier with each packet, wherein the modulator identifier identifies each modulator from which the packet is to be transmitted;

processing each packet prior to transmission from one or more of the plurality of modulators;

copying the determined multicast packets depending upon how many of the plurality of modulators from which the multicast packet is to be transmitted;

appending a data unit header to each packet and copied packet, wherein the data unit header associates the packet with the ~~with~~ transmitting modulator;

providing each packet and copied packet to a buffer in accordance with the data unit header;

stripping the data unit header from each packet and copied packet; and

modulating and transmitting each packet and copied packet from one of the plurality of modulators.

2.   (Canceled)

3.   (Canceled)

4.   (Previously Presented) The method of claim 1, wherein the step of processing includes encrypting the given packet.

5.   (Canceled)

6.   (Previously Presented) The method of claim 1, wherein a first buffer is a multicast buffer for storing multicast packets, and wherein a second buffer is a unicast buffer for storing unicast packets.

7.   (Previously Presented) The method of claim 6, further including the steps of:

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receiving a message indicating that a particular modulator of the plurality of modulators is ready to receive a packet for transmission therefrom; and

sending a packet from one of the multicast buffer or the unicast buffer to the particular modulator, wherein the data unit header associated with the sent packet identifies the particular modulator.

8.   (Previously Presented) The method of claim 6, wherein a plurality of buffers include a plurality of unicast buffers, each unicast buffer is associated with a given modulator of the plurality of modulators and is adapted to store unicast packets that are for transmission from the given modulator associated with the unicast buffer, and the plurality of buffers includes a multicast buffer for storing multicast packets therein.

9.   (Original) The method of claim 8, prior to the step of sending, further including the step of:

determining whether to check the unicast buffer associated with the particular modulator for a unicast packet for transmission from the particular modulator or to check the multicast buffer for a multicast packet;

responsive to determining to check the associated unicast buffer, retrieving from the associated unicast buffer the given packet when there is a unicast packet stored therein; and

responsive to determining to check the multicast buffer, determining whether a packet stored in the multicast buffer is for transmission from the particular modulator and retrieving the given packet from the multicast buffer when the given packet is determined to be for transmission from the particular port.

10.   (Original) The method of claim 9, prior to the step of sending, further including the step of:

associating a count register of a plurality of count registers with each modulator of the plurality of modulators;

incrementing the count register associated with the particular modulator indicated by the message; and

when a packet is retrieved, decrementing each count register associated with a modulator identified by the modulator identifier associated with the retrieved given packet.

11.   (Original) The method of claim 10, wherein each unicast buffer is a first-in-first-out buffer, and when the given packet is retrieved from the given unicast buffer the given packet is the current first-in packet, and wherein when the given packet is retrieved from the multicast buffer the given packet is determined at least in part by the current status of the plurality of count registers and at least in part by the modulator identifier associated with the given packet.

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12.   (Original) The method of claim 9, wherein the determination for checking the multicast buffer or the associated unicast buffer is based at least in part on the current status of the multicast buffer and the associated unicast buffer.

13.   (Original) The method of claim 9, wherein the determination for checking the multicast buffer or the associated unicast buffer is based at least in part on prior determinations.

14.   (Original) The method of claim 1, wherein at least one modulator of the plurality of modulators is a radio frequency modulator.

15.   (Original) The method of claim 14, wherein the radio frequency modulator is a quadrature amplitude modulation modulator.

16.   (Previously Presented) The method of claim 1, wherein the packets of the transport stream include packets conforming to MPEG protocols, and, depending upon a management field in the data unit header, the given packet has a first PID when it is received and a second PID when it is transmitted, wherein the second PID is different from the first PID, wherein the management field includes information regarding PID remapping of the first PID to the second PID.

17.   (Original) The method of claim 1, further including the steps of:
        receiving a second transport stream at a second input port, the second transport stream including a plurality of packets;
        extracting from the first and second transport streams each packet that is to be transmitted from at least one modulator of the plurality of modulators; and
        sorting extracted packets into a plurality of groups, the plurality of groups including a multicast group that includes multicast packets from the first and second transport streams and at least one unicast group that includes unicast packets from the first and second transport streams.

18.   (Canceled)

19.   (Previously Presented) The method of claim 17, wherein the at least one unicast group is a plurality of unicast groups, each unicast group is associated with a given modulator of the plurality of

modulators, and wherein the data unit header identifies the given modulator of the plurality of modulators from which the unicast group is transmitted.

20.   (Original) The method of claim 19, wherein the first and second transport streams include packets that conform to MPEG protocols.

21.   (Original) The method of claim 20, wherein at least one packet of the first transport stream has a first PID value associated therewith and at least one packet of the second transport stream has a second PID value associated therewith, and wherein the first PID value and the second PID value are the same value.

22.   (Original) The method of claim 19, wherein when a packet conforming to MPEG protocols is received the packet has a first PID value associated therewith, and the packet has a second PID value associated therewith when the packet is transmitted and when the packet is a multicast packet.

23.   (Previously Presented) An apparatus in a digital network that receives a transport stream and transmits a plurality of transport streams, the apparatus comprising:

an input port adapted to receive the transport stream having a plurality of packets included therein;

a processor in communication with the input port, the processor adapted to determine which packets of the transport stream are multicast and unicast packets, wherein a multicast packet is a packet that is transmitted from a plurality of modulators, and a unicast packet is transmitted from only one of the plurality of modulators, the processor for copying the determined multicast packets, and for appending a data unit header to each packet and copied packet, wherein the data unit header associates each packet and copied packet to the transmitting modulator; and

the plurality of modulators in communication with the processor, each modulator adapted to modulate and transmit the determined packet therefrom.

24.   (Canceled)

25.   (Canceled)

26.   (Previously Presented) The apparatus of claim 23, wherein the processor processes a particular packet for transmission by encrypting the particular packet.

27.   (Previously Presented) The apparatus of claim 23 further including a plurality of buffers in communication with the processor and the plurality of modulators, each buffer adapted to store a plurality of received packets therein.

28.   (Original) The apparatus of claim 27, wherein a first buffer of the plurality of the buffers is a multicast buffer for storing multicast packets, and wherein a second buffer of the plurality of the buffers is a unicast buffer for storing unicast packets.

29.   (Original) The apparatus of claim 27, wherein the processor receives a message indicating that a particular modulator of the plurality of modulators is ready to receive a packet for transmission therefrom, and responsive thereto, the processor sends a given packet from a given buffer of the plurality of buffers to the particular modulator, wherein the modulator identifier associated with the given packet identifies the particular modulator.

30.   (Original) The apparatus of claim 27, wherein the plurality of buffers include a plurality of unicast buffers, each unicast buffer is associated with a given modulator of the plurality of modulators and is adapted to store unicast packets that are for transmission from the given modulator associated with the unicast buffer, and the plurality of buffers includes a multicast buffer for storing multicast packets therein.

31.   (Original) The apparatus of claim 30, wherein in response to the message received from the particular modulator the processor determines whether to retrieve a unicast packet from the unicast buffer associated with the particular modulator or to retrieve a multicast packet from the multicast buffer.

32.   (Original) The apparatus of claim 31, wherein the processor is further adapted to keep count of packet requests from each modulator, and the processor decreases the packet request count for the particular modulator when a packet is sent to the particular modulator.

33.   (Original) The apparatus of claim 32, wherein each unicast buffer is a first-in-first-out buffer, and when a given packet is retrieved from the unicast buffer associated with the particular modulator the given packet is the current first-in packet, and wherein when a given packet is retrieved from the multicast buffer the given packet is determined at least in part by the current status of the plurality of count registers and at least in part by the modulator identifier associated with the given packet.

34.   (Original) The apparatus of claim 31, wherein the determination for checking the multicast buffer or the associated unicast buffer is based at least in part on the current status of the multicast buffer and the associated unicast buffer.

35.   (Original) The apparatus of claim 31, wherein the determination for checking the multicast buffer or the associated unicast buffer is based at least in part on prior determinations.

36.   (Original) The apparatus of claim 23, wherein at least one modulator of the plurality of modulators is a radio frequency modulator.

37.   (Original) The apparatus of claim 36, wherein the radio frequency modulator is a quadrature amplitude modulation modulator.

38.   (Previously Presented) The apparatus of claim 23, wherein the packets of the transport stream include packets conforming to MPEG protocols, and, depending upon a management field of the data unit header, the given packet has a first PID when it is received and a second PID when it is transmitted, wherein the second PID is different from the first PID, wherein the management field includes information regarding PID remapping specifying the first PID to the second PID.

39.   (Original) The apparatus of claim 23, further including:
        a second input port in communication with the processor and the plurality of modulators, the second input port adapted to receive a second transport stream at a second input port, the second transport stream including a plurality of packets; and
        wherein the processor is further adapted to extract from the first and second transport streams each packet that is to be transmitted from at least one modulator of the plurality of modulators, and the processor is adapted to sort the extracted packets into a plurality of groups, the plurality of groups including a multicast group that includes multicast packets from the first and second transport streams and at least one unicast group that includes unicast packets from the first and second transport streams.

40.   (Canceled)

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41.   (Previously Presented) The apparatus of claim 39, wherein the at least one unicast group is a plurality of unicast groups, each unicast group is associated with a given modulator of the plurality of modulators.

42.   (Original) The apparatus of claim 41, wherein the first and second transport streams include packets that conform to MPEG protocols.

43.   (Original) The apparatus of claim 42, wherein at least one packet of the first transport stream has a first PID value associated therewith and at least one packet of the second transport stream has a second PID value associated therewith, and wherein the first PID value and the second PID value are the same value.

44.   (Original) The apparatus of claim 41, wherein when a packet conforming to MPEG protocols is received the packet has a first PID value associated therewith, and the packet has a second PID value associated therewith when the packet is transmitted and when the packet is a multicast packet.

45 - 55.   (Canceled)